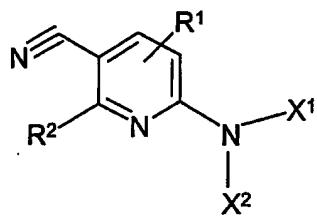


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## CLAIMS

What is claimed is:

1. A compound of the formula:



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and the pharmaceutically acceptable salts, hydrates, and prodrugs thereof, wherein;

- a)  $R^1$  is represented by halogen,  $(C_1-C_2)$ alkyl, substituted with one or more halogens, or  $(C_1-C_2)$ alkoxy, substituted with one or more halogens,
- 10 b)  $R^2$  is represented by hydrogen or halogen,
- c)  $X^1$  and  $X^2$  are each independently represented by
  - i)  $(C_1-C_{12})$ alkyl, optionally substituted,
  - 15 ii)  $(C_2-C_{12})$ alkenyl, optionally substituted,
  - iii)  $(C_2-C_{12})$ alkynyl, optionally substituted,
  - iv)  $(C_3-C_{10})$ cycloalkyl, optionally substituted,
  - v)  $(C_3-C_{10})$ cycloalkyl $(C_1-C_6)$ alkyl, in which the alkyl and cycloalkyl moieties may each be optionally substituted,
  - 20 vi)  $(C_6-C_{10})$ aryl, optionally substituted,
  - vii)  $(C_6-C_{10})$ aryl $(C_1-C_6)$ alkyl, in which both the alkyl and aryl moieties may be optionally substituted,
  - viii)  $-(CH_2)_q-CH_2-ZH$ , in which Z is S or O and q is an integer from 1-11,
  - 25 ix)  $-(CH_2)_n-Y-(CH_2)_p-CH_3$ , in which Y is O or S, n is an integer from 1 to 4, and p is an integer from 1 to 4,
  - x)  $-[CH_2]_m-C(O)R^3$ , in which m is an integer selected from 1 to 8 and  $R^3$  is represented by hydrogen,  $(C_1-C_{12})$ alkyl,  $(C_6-C_{10})$ aryl, or  $(C_6-C_{10})$ aryl $(C_1-C_6)$ alkyl, in which both the alkyl and aryl moieties may be optionally substituted,

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- x)  $-\left[\text{CH}_2\right]_m-\text{C}(\text{O})-\text{O}-\text{R}^4$ , in which m is as defined above and  $\text{R}^4$  is represented by hydrogen, ( $\text{C}_1\text{-}\text{C}_{12}$ )alkyl, ( $\text{C}_6\text{-}\text{C}_{10}$ )aryl, or ( $\text{C}_6\text{-}\text{C}_{10}$ )aryl( $\text{C}_1\text{-}\text{C}_6$ )alkyl, in which the alkyl and aryl moieties may be optionally substituted,
- 5       xi)  $-\left[\text{CH}_2\right]_m-\text{C}(\text{O})-\text{N}\text{R}^5\text{R}^6$  in which m is as described above, and  $\text{R}^5$  and  $\text{R}^6$  are each independently represented by hydrogen, ( $\text{C}_1\text{-}\text{C}_{12}$ )alkyl, ( $\text{C}_6\text{-}\text{C}_{10}$ )aryl, or ( $\text{C}_6\text{-}\text{C}_{10}$ )aryl( $\text{C}_1\text{-}\text{C}_6$ )alkyl, in which the alkyl and aryl moieties may each be optionally substituted,
- 10      xvii) heteroaryl, optionally substituted,
- xviii) heteroaryl( $\text{C}_1\text{-}\text{C}_6$ )alkyl, in which the heteroaryl and alkyl moieties may each be optionally substituted,
- xix) heterocyclic, optionally substituted, or,
- xx) heterocyclic( $\text{C}_1\text{-}\text{C}_6$ )alkyl, in which the alkyl and heterocyclic moieties may each be optionally substituted.

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- 2. A compound according to claim 1 in which  $\text{R}^1$  is represented by trifluoromethyl.
- 3. A compound according to any one of claims 1- or 2 in which said trifluoromethyl is located at the 4-position of the pyridine ring.
- 20      4. A compound according to anyone of claims 1-3 in which  $\text{R}^2$  is hydrogen.
- 5. A compound according to anyone of claims 1-4 in which  $\text{X}^1$  is ( $\text{C}_1\text{-}\text{C}_{12}$ )alkyl and  $\text{X}^2$  is ( $\text{C}_6\text{-}\text{C}_{10}$ )aryl( $\text{C}_1\text{-}\text{C}_6$ )alkyl.
- 6. A compound according to anyone of claims 1-5 in which  $\text{X}^1$  and  $\text{X}^2$  are each ( $\text{C}_1\text{-}\text{C}_{12}$ )alkyl
- 25      7. A compound according to anyone of claims 1-6 in which  $\text{X}^1$  is ( $\text{C}_1\text{-}\text{C}_{12}$ )alkyl and  $\text{X}^2$  is ( $\text{C}_3\text{-}\text{C}_{10}$ )cycloalkyl( $\text{C}_1\text{-}\text{C}_6$ )alkyl.
- 8. A compound according to claim 1 selected from the group consisting of ( $\text{R}$ )-(+)-6-[Methyl-(1-Phenyl-ethyl)-amino]-4-trifluoromethyl-nicotinonitrile,

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( R)-(+)-2-Chloro-6-[methyl-(1-phenyl-ethyl)-amino]-4-trifluoromethyl-nicotinonitrile,  
5  
6-[methyl-(1-phenyl-ethyl)-amino]-4-trifluoromethyl-nicotinonitrile,  
6-[methyl-(1-phenyl-ethyl)-amino]-4-trifluoromethoxy-nicotinonitrile,  
6-[methyl-(1-(4-fluorophenyl)-ethyl)-amino]-4-trifluoromethyl-nicotinonitrile,  
6-[methyl-(1-(3-hydroxyphenyl)-ethyl)-amino]-4-trifluoromethyl-nicotinonitrile,  
10  
6-[butyl(1-(3-hydroxyphenyl)-ethyl)-amino]-4-trifluoromethoxy-nicotinonitrile,  
6-dipropylamino-4-trifluoromethyl-nicotinonitrile,  
2-chloro-6-dimethylamino-4-trifluoromethyl-nicotinonitrile,  
6-(hexyl-octyl-amino)-4-trifluoromethyl-nicotinonitrile,  
6-(sec-butyl-methyl-amino)-4-trifluoromethyl-nicotinonitrile,  
6-[butyl-(2-hydroxy-ethyl)-amino]-4-trifluoromethyl-nicotinonitrile,  
15  
6-(butyl-methyl-amino)-4-trifluoromethyl-nicotinonitrile,  
6-(benzyl-methyl-amino)-4-trifluoromethyl-nicotinonitrile,  
6-(cyclohexyl-propyl-amino)-4-trifluoromethyl-nicotinonitrile,  
6-(cyclopropylmethyl-propyl-amino)-4-trifluoromethyl-nicotinonitrile,  
6-(sec-butyl-methyl-amino)-2-chloro-4-trifluoromethyl-nicotinonitrile,  
20  
6-Dipropylamino-2-chloro-4-trifluoromethyl-nicotinonitrile,  
6-(propyl-methyl-amino)-2-chloro-4-trifluoromethyl-nicotinonitrile, and,  
6-(Butyl-methyl-amino)-2-chloro-4-trifluoromethyl-nicotinonitrile.

9. Use of a compound according to anyone of Claims 1-8 as a medicine.
10. Use of a compound according to anyone of Claims 1-8 in the manufacture of a medicament for inhibiting activation of the androgen receptor.  
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11. A pharmaceutical composition comprising a compound according to any one of Claims 1-8 in admixture with 1, or more, pharmaceutically acceptable excipients.
12. A topical pharmaceutical formulation comprising a compound according to anyone of Claims 1-8 in admixture with 1, or more, pharmaceutically acceptable excipients suitable for dermal application.  
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13. An article of manufacture comprising a compound according to any one of Claims 1-8 packaged for retail distribution which advises a consumer how to utilize the compound to alleviate a condition selected from the group consisting of acne, alopecia, and oily skin.
- 5  
14. Use of a compound according to any one of claims 1-8 in the manufacture of a medicament for alleviating a condition selected from the group consisting of hormone dependent cancers, benign hyperplasia of the prostate, acne, hirsutism, excess sebum, alopecia, premenstrual syndrome, lung cancer, precocious puberty, osteoporosis, hypogonadism, 10 age-related decrease in muscle mass, and anemia.

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